

REMARKS

Claims 4 and 6 are pending in the present application. Claims 4 and 6 are herein amended.
No new matter has been entered.

Rejection under 35 USC §112, Second Paragraph

Claim 4 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite because in line 16, the phrase, “wherein the magnet satisfies following (A) and (D)” is indefinite.

As shown above amendment, claim 4 (as well as claim 6) has been amended to change “(A) and (D)” to --(A) to (C)--. Thus, this rejection has been overcome and should be withdrawn.

Rejections under 35 USC §102(b)/103(a)

Claims 4 and 6 were rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over each of Daisuke et al. (Daisuke 303, JP 01-117303) and Satoru et al. (Satoru ‘048, JP 62-074048).

Among rare earth metals, Pr, Dy, Tb, Ho (hereinafter element M) are especially expensive elements. The present inventors discovered that the coercive force increases when element M is diffused along the grain boundary of the sintered magnet even if the total amount of element M is the same. Thus, the present invention brings out more coercive force than what was considered the

limit brought about by the same element M amount. These were not known before the present invention.

As described in the specification, for example, at page 8, lines 1-5 and 16-21, page 13, line 24 to page 14, line 2, it is a significant advantage of the present invention that element M amount can be reduced in sintered magnets maintaining high coercive force and high residual magnetic flux density.

Although Daisuke et al. and Satoru et al. disclose sintered magnets which are made by methods including forming a thin film of Pr, Dy, etc. and diffusing these elements. However, Daisuke et al. and Satoru et al. do not sufficiently diffuse the elements along the grain boundaries, and these methods do not contribute to decrease the amount of element M.

In Daisuke et al., the coercive force does not increase. The Table in Daisuke et al. shows that Embodiment 1 and 2 have coercive force of only 18.0 kOe while the Comparative Example has coercive force of 18.1 kOe.

In Satoru et al., Tables 1 to 3 shows embodiments with Nos. 1, 4, 7 and 8. These magnets have coercive force of only 8.0 to 10.5 kOe.

Applicants submit herewith a Declaration under 37 CFR 1.132 which shows unexpected results of the present invention. As shown in Fig. 1, the magnets of Daisuke et al. and Satoru et al. never give any magnetic parameters above the critical borderline presented in Fig. 1. This means that their methods are different from the present invention in the essential point to produce the useful coercive permanent magnets by saving the expensive and short-supplying Dy or Tb metals.

Thus, the present invention patentably distinguishes over Daisuke et al. and Satoru et al.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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Attachment: Declaration under 37 CFR 1.132